

## IN THE CLAIMS

1. Cancelled

2. Cancelled

3.(Amended) ~~The magnetron according to claim 2~~ A sweeping linear magnetron comprising a cathode backing plate, said cathode backing plate having an exterior surface adapted to be attached to a vacuum chamber wherein a plasma deposition process will occur; a drive housing attached to said exterior surface of said cathode backing plate, said drive housing positioned over a cut-out in the surface of said cathode backing plate; a motor held in said drive housing, said motor driving a yoke, said yoke positioned within said cut-out in said surface of said cathode backing plate; a magnet pack, said magnet pack attached to said yoke, said magnet pack having a first magnet mounting plate and a second magnet mounting plate that goes over the first magnet mounting plate and a plurality of magnets positioned between said first magnet mounting plate and said second magnet mounting plate, said magnet mounting plates have at least one side edge and at least one end edge, said magnet pack having between the first magnet mounting plate and the second magnet mounting plate one or more center magnets having a first end and a second end and a body between said first end and said second end and one or more side magnets having a first end and a second end and a body between said first end and said second end, said side magnets being positioned along said side edge and said end magnets are positioned along said end edge, the bodies of said center magnets and said side magnets generally positioned in the same alignment so that their ends do not contact each other and one or more end magnets on the magnet mounting plates in an area of the magnet mounting plates that extends past the ends of the center and side magnet; and wherein one or more filler magnets are positioned between the body of the center magnets and the body of the side magnets.

4. (Amended) The magnetron according to claim [2] 3 wherein one or more end magnets extend from one end of one side magnet to one end of a second side magnet.

5. (Original) The magnetron according to claim 4 wherein one or more end magnets form an arc that extends from one end of one side magnet to one end of a second side magnet along the end edge of said magnet mounting plates.

6. (Original) The magnetron according to claim 4 wherein the end magnets act as a shunt for the magnetic flux.

7. (Original) The magnetron according to claim 6 wherein the end magnets are fixed to the magnet mounting plate with their south poles facing said target material.

8. (Original) The magnetron according to claim 7 wherein the side magnets have their north poles facing said target material.

9. (Original) The magnetron according to claim 8 wherein the center magnets have their south poles facing said target material.

10. (Amended) The magnetron according to claim 9 wherein [said] one or more filler magnets may be oriented such that their north poles contact the side magnets, while their south poles contact the center magnets.

11. (Amended) The magnetron according to claim [1] 3 wherein said magnet pack moves linearly across a width of said target material.

12. (Amended) The magnetron according to claim [1] 3 wherein said magnet pack moves linearly across a length of said target material.

13.(Amended) The magnetron according to claim [1] 3 wherein said motor is a frequency actuator.

14. (Amended) The magnetron according to claim [1] 3 wherein said motor is an air cylinder.

15.(Amended) [The magnetron according to claim 1] A sweeping linear magnetron comprising a cathode backing plate, said cathode backing plate having an exterior surface adapted to be attached to a vacuum chamber wherein a plasma deposition process will occur; a drive housing attached to said exterior surface of said cathode backing plate, said drive housing positioned over a cut-out in the surface of said cathode backing plate; a motor held in said drive housing, said motor driving a yoke, said yoke positioned within said cut-out in said surface of said cathode backing plate; a magnet pack, said magnet pack attached to said yoke, said magnet pack having a first magnet mounting plate having [wherein] a plurality of cooling fins [are] disposed on said [first] magnet mounting plate and a second magnet mounting plate that goes over the first magnet mounting plate and a plurality of magnets positioned between said first magnet mounting plate and said second magnet mounting plate, said magnet pack having between the first magnet mounting plate and the second magnet mounting plate one or more center magnets having a first end and a second end and a body between

said first end and said second end and one or more side magnets having a first end and a second end and a body between said first end and said second end, the bodies of said center magnets and said side magnets generally positioned in the same alignment so that their ends do not contact each other and one or more end magnets on the magnet mounting plates in an area of the magnet mounting plates that extends past the ends of the center and side magnet.

16. (Amended) The magnetron according to claim [10] 3 wherein a plurality of cooling fins are ~~is~~ disposed on each of said magnet mounting plates.

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32. (Withdrawn) A film formed by a sweeping linear magnetron said magnetron comprising a cathode backing plate, said cathode backing plate having an exterior surface adapted to be attached to a vacuum chamber wherein a plasma deposition process will occur; a drive housing attached to said exterior surface of said cathode backing plate, said drive housing positioned over a cut-out in the surface of said cathode backing plate; a motor held in said drive housing, said motor driving a yoke, said yoke positioned within said cut-out in said surface of said cathode backing plate; a magnet pack, said magnet pack attached to said yoke, said magnet pack having a first magnet mounting plate and a second magnet mounting plate that goes over the first magnet mounting plate and a plurality of magnets positioned between said first magnet mounting plate and said second magnet mounting plate, said magnet pack having between the first magnet mounting plate and the second magnet mounting plate one or more center magnets having a first end and a second end and a body between said first end and said second end and one or more side magnets having a first end and a second end and a body between said first end and said second end, the bodies of said center magnets and said side magnets generally positioned in the same alignment so that their ends do not contact each other and one or more end magnets one the magnet mounting plates in an area of the magnet mounting plates that extends past the ends of the center and side magnet; and said magnet pack being moved over a target material, said target material being sputtered within said vacuum chamber onto a substrate.

32. (New) The magnetron according to claim 15 wherein one or more end magnets extend from one end of one side magnet to one end of a second side magnet.

33. (New) The magnetron according to claim 32 wherein one or more end magnets form an arc that extends from one end of one side magnet to one end of a second side magnet along the end edge of said magnet mounting plates.

34. (New) The magnetron according to claim 33 wherein the end magnets act as a shunt for the magnetic flux.

35. (New) The magnetron according to claim 34 wherein the end magnets are fixed to the magnet mounting plate with their south poles facing said target material.

36. (New) The magnetron according to claim 35 wherein the side magnets have their north poles facing said target material.

37. (New) The magnetron according to claim 36 wherein the center magnets have their south poles facing said target material.

38. (New) The magnetron according to claim 37 wherein one or more filler magnets may be oriented such that their north poles contact the side magnets, while their south poles contact the center magnets.

39. (New) The magnetron according to claim 15 wherein said magnet pack moves linearly across a width of said target material.

40. (New) The magnetron according to claim 15 wherein said magnet pack moves linearly across a length of said target material.

41.(New) The magnetron according to claim 15 wherein said motor is a frequency actuator.

42. (New) The magnetron according to claim 15 wherein said motor is an air cylinder.